Henan Liangyi Mechanical and Electronic Technology Co.,Ltd

3D Printer--U2 User Manual

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1. Introduction

1.1 How to use the manual

It includes 4 parts: Introduction,Overview,Operation and Common Troubleshooting. Please read this manual carefully before installing and manipulating the machine just for your information.

1.2 Precautions

Please read this chapter carefully before using.

1.2.1 Safety

Don’t touch the printed model or the nozzle when it’s working or just fishing,just in case of the scald and the damage of the printed model.

Plastic nippers and a pair of goggle are advised when you try to remove the support part.

There will be a less-pleasant odor when it’s printing,so that is why we advise a well-ventilated environment. In addition, please keep the printer away from strong airflow which may effect the quality of printing.

Tips: Please keep well-ventilated because some irritant odor will be released when ABS is melting.

1.2.2 Protective Measures

--Please don’t spoil any water or drinks inside the cabinet which may cause the damage of circuit.
--Please don’t power off or plug out the SD card or the USB cable,or it may damage the date of the model.
--Please keep a proper distance, like10mm or above, between the nozzle and the heating bed when you do the testing. If not,it may cause nozzle jam when the filament flows out from the nozzle after heating.

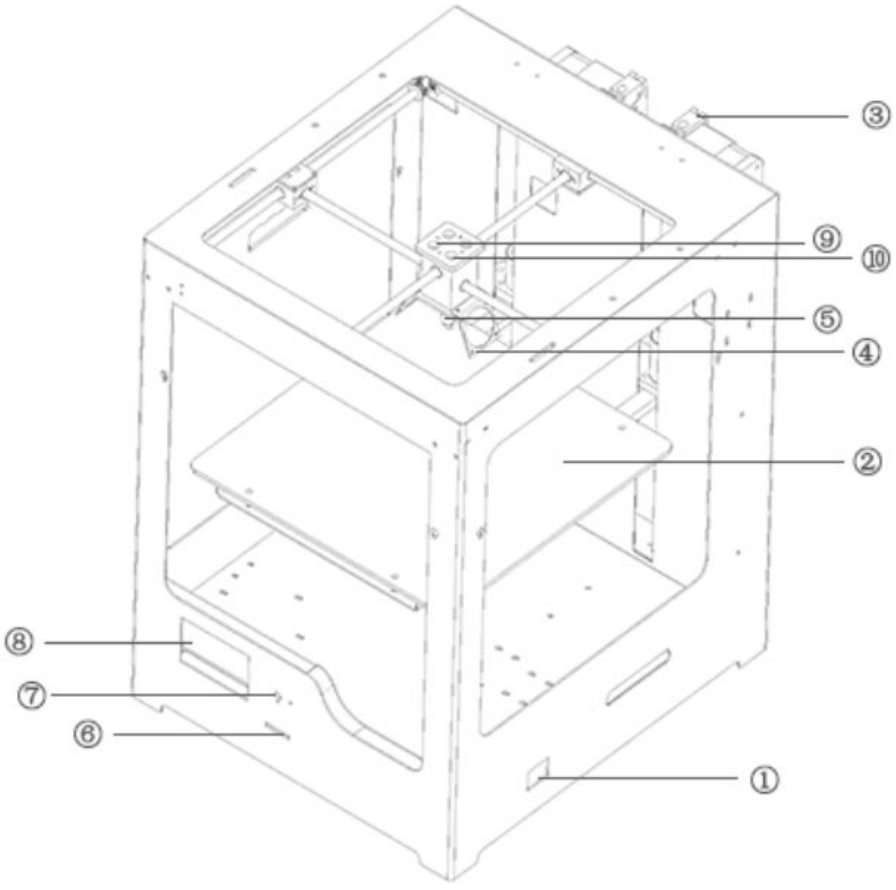
2.Brief Introduction

Simplicity and stability is the design concept of U2.

It's easy to manipulate and make whatever you like with a few buttons even for amateurs. The working principle is extruding the melting ABS/PLA and fast solidification after shaping to accomplish the 3D printing

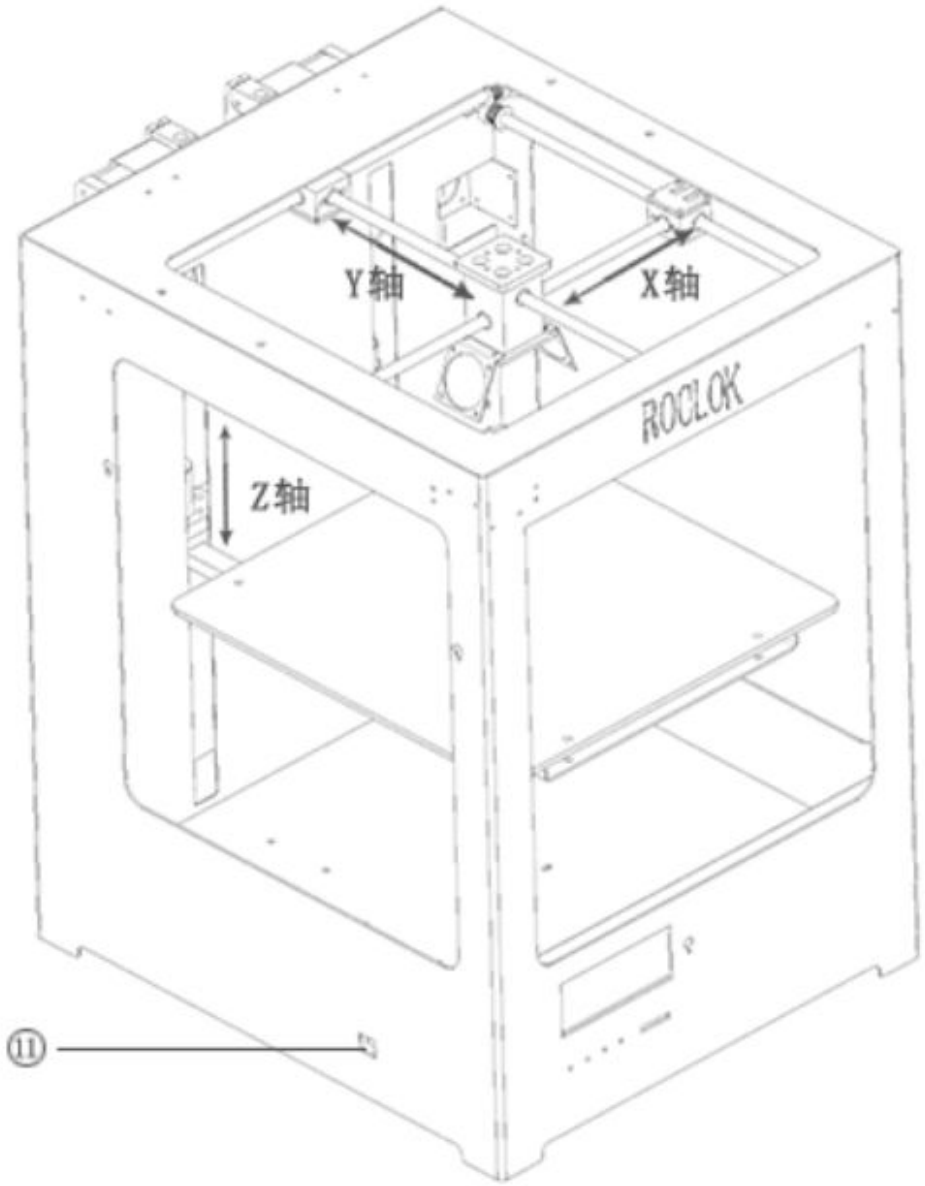
2.1 Appearance

2.1.1. Lateral View



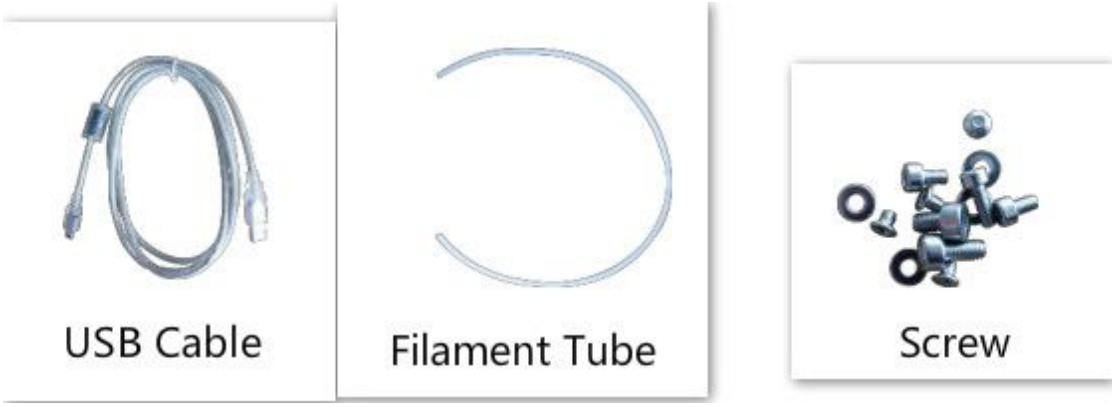
① Power
② Heating bed
③ Extruder
④ Fan
⑤ Nozzle
⑥ SD Slot
⑦ Menu Button
⑧ LCD Screen
⑨ A1 Filament-in A1
⑩ A2 Filament-in A2

2.2 Axis



⑪ USB Slot

2.1.3. Accessories



2.1.4. Tools

2.2 Printer Specifications

Forming Technology：

- Fused Deposition Modeling（FDM）

Technical Parameters：

- Nozzle Quantity：single nozzle\dual nozzle
- Molding size：250*250*300mm
- Positioning accuracy：X.Y Axis10Micron，Z Axis1.5Micron
- Minimum print thickness：0.06mm
- Nozzle diameter：0.4mm（0.3 Optional）
- Maximum air-way speed：250mm/s
- Maximum print speed：150mm/s
- Maximum extrusion temperature：250 degree
- Highest temperature hot bed：120 degree
- Highest Feeding speed：100mm/s

Filament：

- Support filament：ABS、PLA、PVA、PS、PC
- Filament filament：150~250 filament
- Filament color：black、white、red、yellow、green、blue and so on

Hardware：

- Controller：Arduino ATmega2560 R3 Microcontrollers
- Control board：RUMBA control board
- Stepper motor：X、Y 42*48 Stepper motor，1.2A
- Stepper motor：Z axis42*48 Stepper motor，1.5A

- Stepper motor：E axis42*48 Stepper motor，1.8A
- Input Power：110~220V，1.5A
- Output Power：Special Switching Power Supply，24V，10.5A

Software：

- Operating System：XP、Vista、Win7、Win8, LINUX,OS
- Input File：STL、OBJ、GCode
- Slice Software：Cura、Slic3r、kisslicer
- Upper computer software：Cura、Printrun、RepetierHost

Machinery：

- Bare metal Dimensions：38*47*57cm
- Package Dimensions：44*54*61cm
- Net weight：24.5kg
- Gross weight：about 32kg

2.3 Work environment

Relative humidity	20%--90%
Room temperature	10℃--35℃

3. Machine Inspection

3.1 Printer Installation Preparation

3.1.1 Packaging inspection

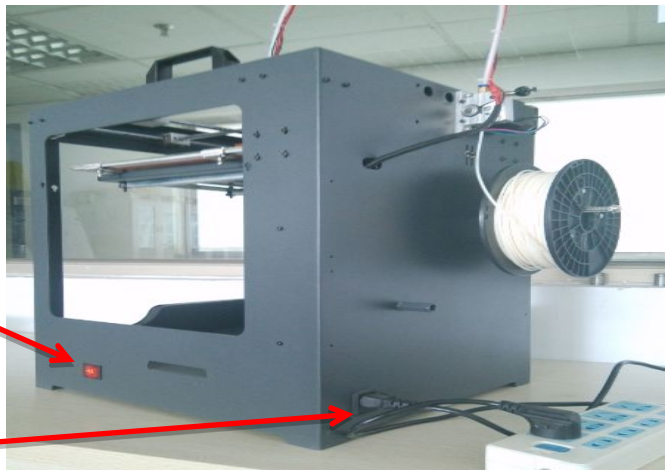
3.1.1.1 Please check the integrity of the package
When you receive the product.
3.1.1.2 Please reject the product once any damage.

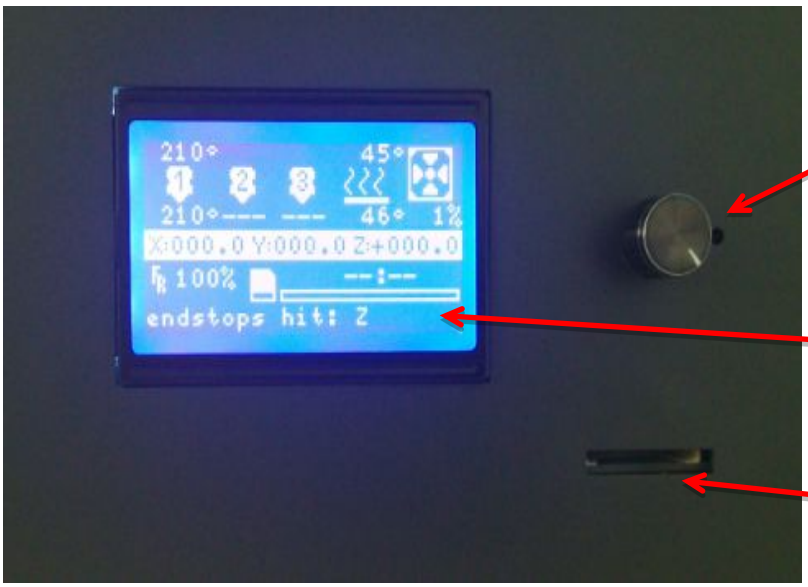
3.1.2 Machine Inspection

3.1.2.1 Please open the package carefully to check the machine;
3.1.2.2 Any damage found, please take picture and contact the manufacturer in time.

3.2 Filament Installation

3.2.1 Check the glass to see if it's loose or not,Adjust the glass locker and aluminum plate.
3.2.2 Insert the filament to the tube with tools in tools bag (No12 wrench) in A1 hole.
3.2.3 Preheat（PLA filament）



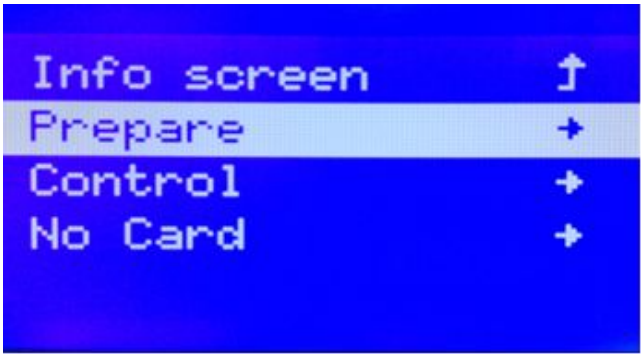


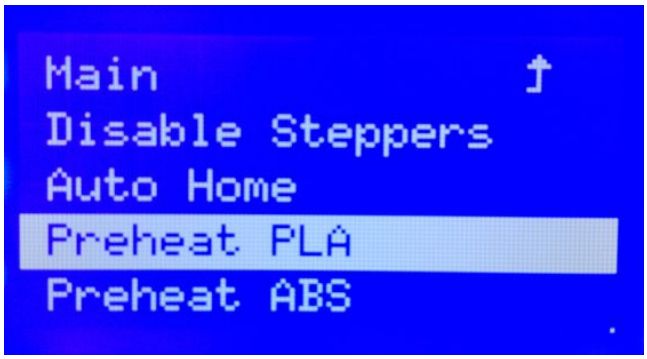
Menu knob

Rotate to choose and press to confirm operation

Menu

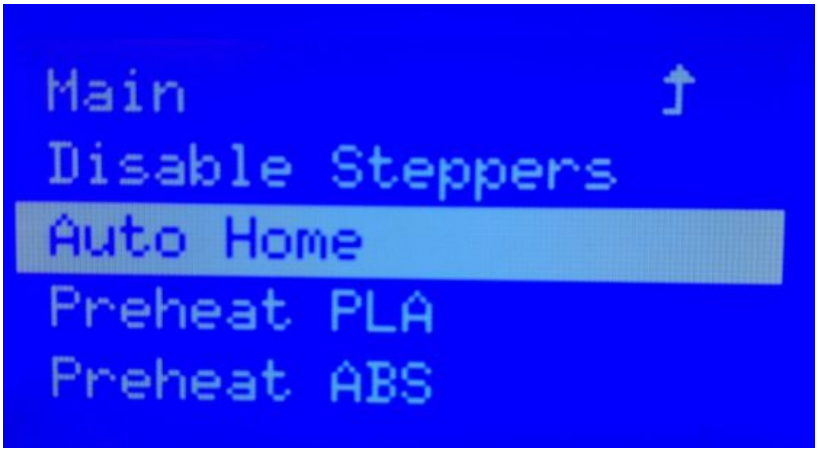
SD card slot



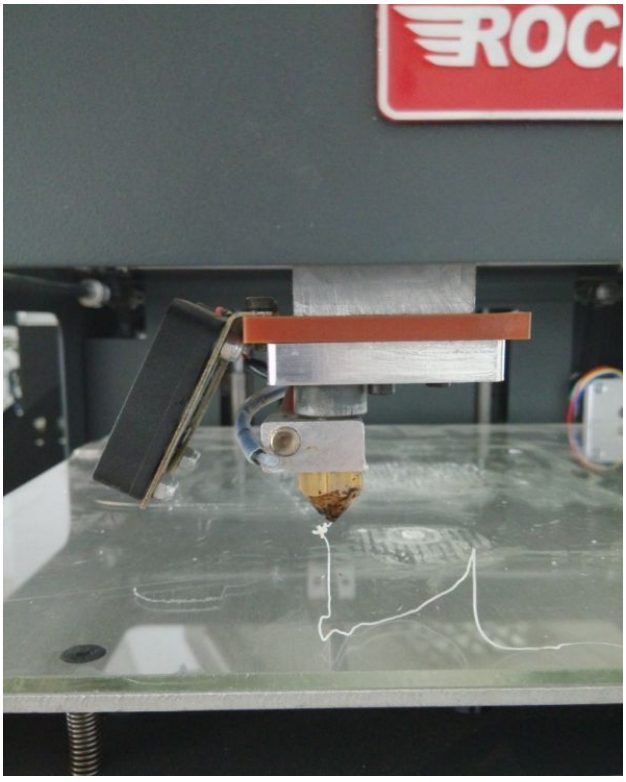


PLA filament can be installed before the nozzle temperature is up to 210 centigrade.(Adjusting the distance between nozzle and bed is necessary before installing the filament)

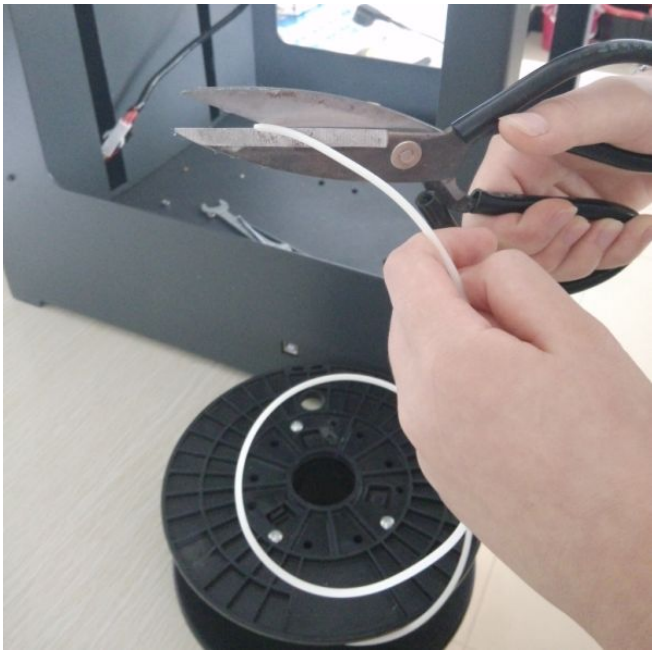
Auto Home



Adjust the bed and nozzle distance and watch the flowing of the filament from the nozzle.

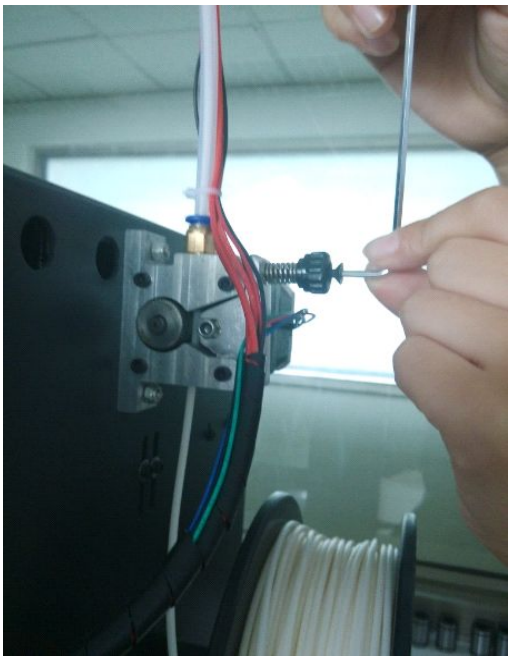


Use scissors to trim the material into a conical.



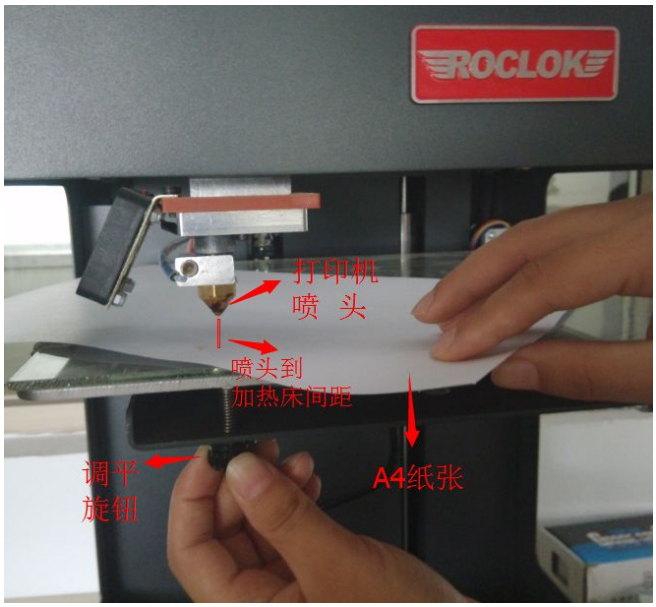
Insert the filament through the tube until it flows out of the nozzle.

Fix the screw and spring with the hex wrench.



Detailed procedure of adjustment:

Auto home-prepare-Disable stepper

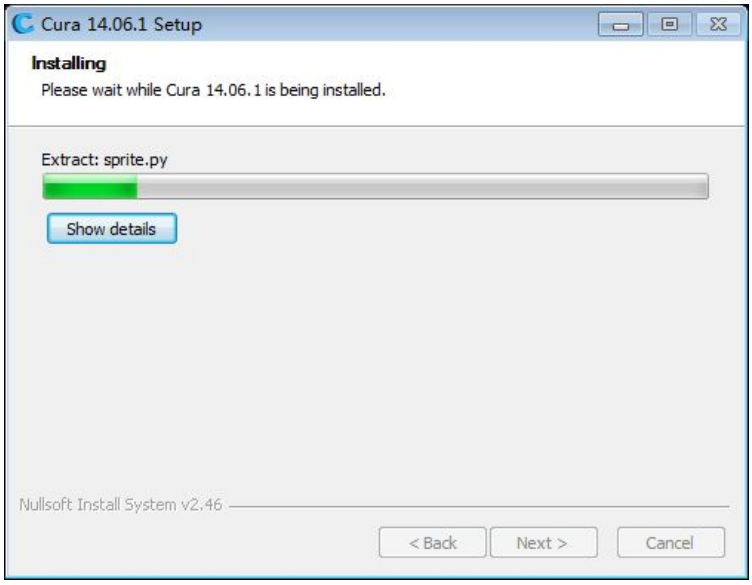


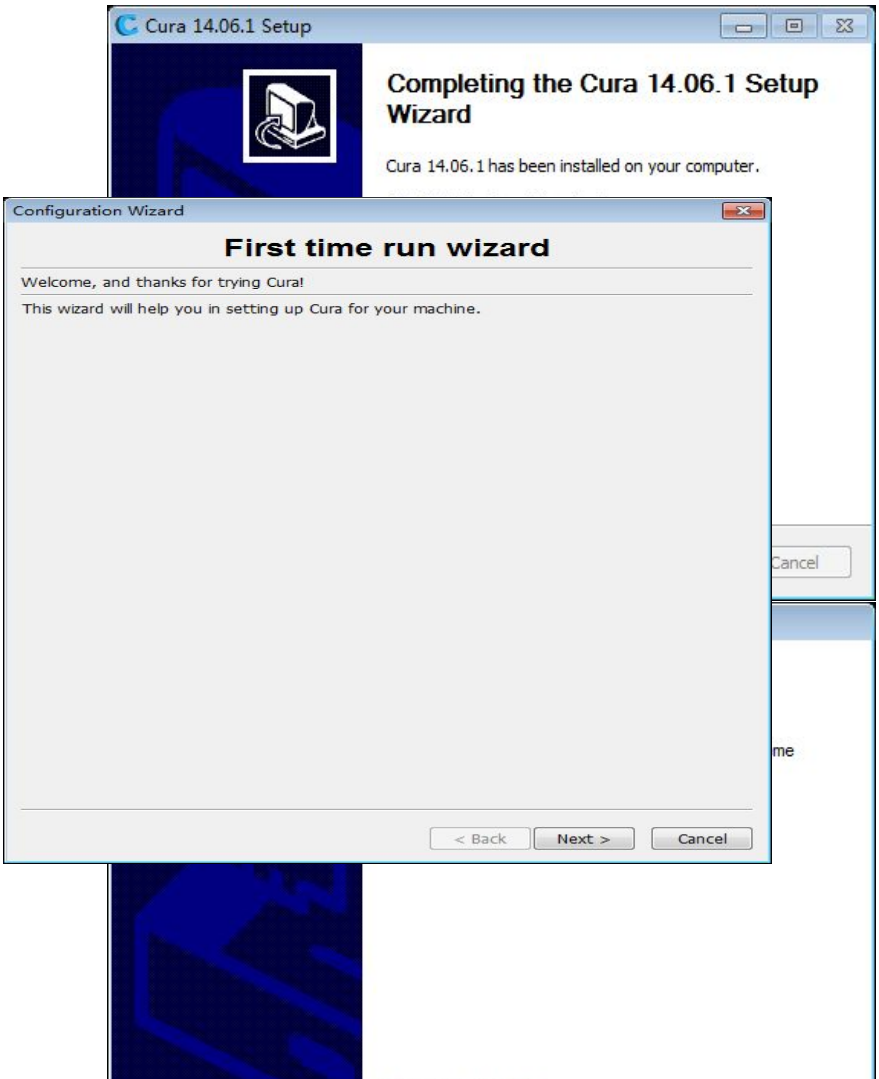
Then,place a piece of paper between the nozzle and the bed to adjust the distance between them by fasten or loosen the screw under the bed.(If you need,I can provide you a video of this part)

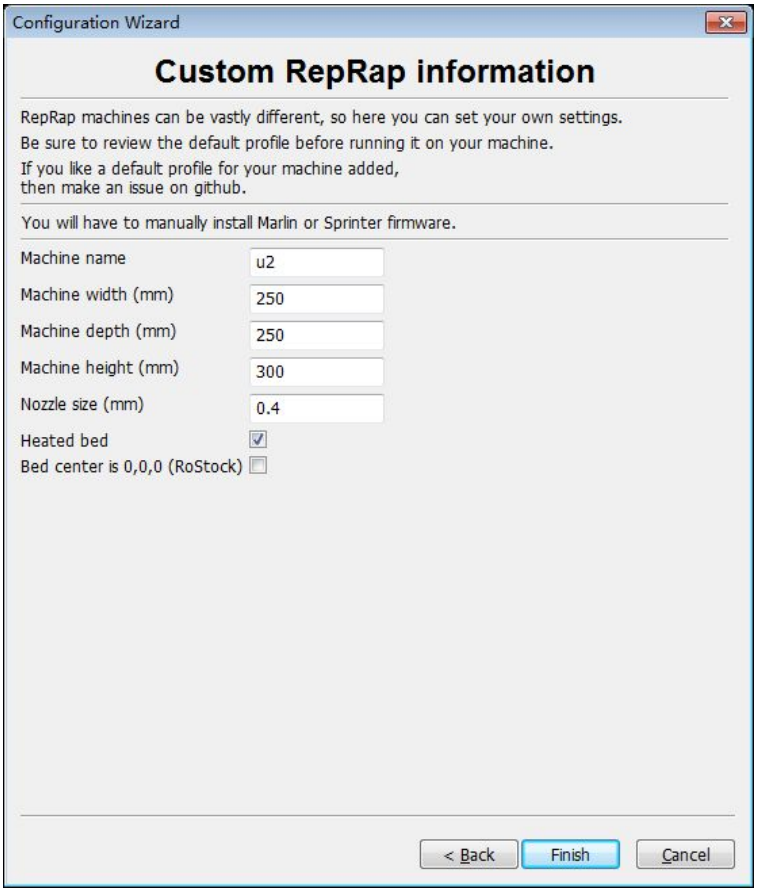
3.3 Install the Cura

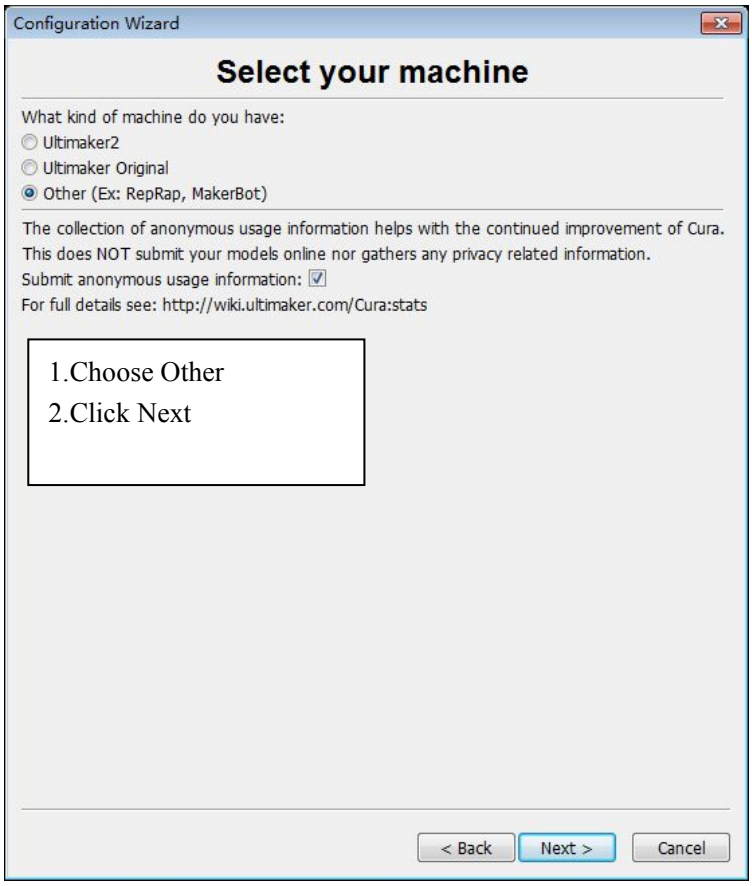
This software is already in the SD memory card or you can download online.

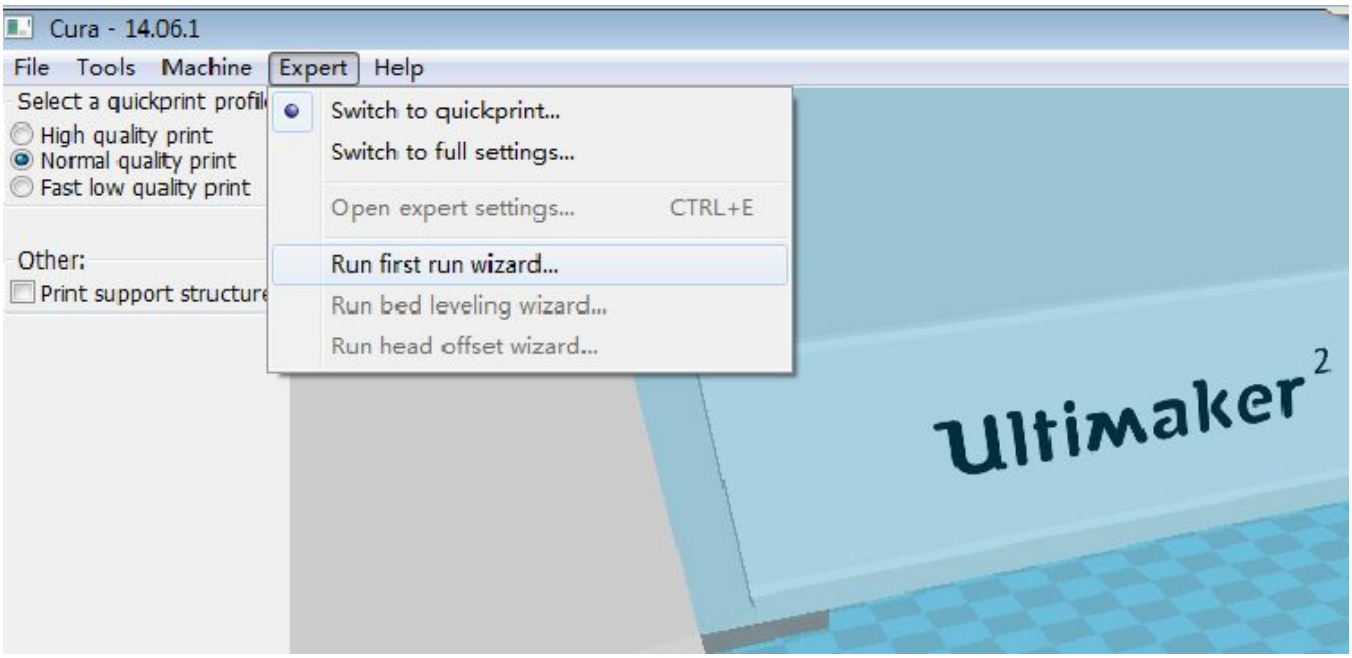
3.3.1 Process of installation Cura




Cura 14.06.1 Setup
Completing the Cura 14.06.1 Setup Wizard
Cura 14.06.1 has been installed on your computer.
Configuration Wizard
First time run wizard
Welcome, and thanks for trying Cura!
This wizard will help you in setting up Cura for your machine.
< Back
Next >
Cancel


Configuration Wizard
Custom RepRap information
RepRap machines can be vastly different, so here you can set your own settings.
Be sure to review the default profile before running it on your machine.
If you like a default profile for your machine added,
then make an issue on github.
You will have to manually install Marlin or Sprinter firmware.
Machine name
u2
Machine width (mm)
250
Machine depth (mm)
250
Machine height (mm)
300
Nozzle size (mm)
0.4
Heated bed
Bed center is 0,0,0 (RoStock)
< Back
Finish
Cancel

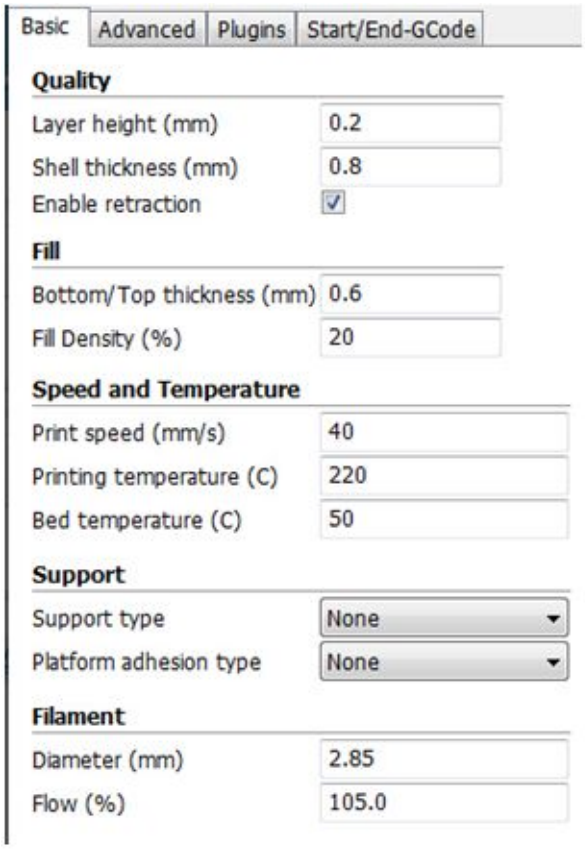

Configuration Wizard
Select your machine
What kind of machine do you have:
Ultimaker2
Ultimaker Original
Other (Ex: RepRap, MakerBot)
The collection of anonymous usage information helps with the continued improvement of Cura.
This does NOT submit your models online nor gathers any privacy related information.
Submit anonymous usage information:
For full details see: http://wiki.ultimaker.com/Cura:stats
1.Choose Other
2.Click Next
< Back
Next >
Cancel


Cura - 14.06.1
File
Tools
Machine
Expert
Help
Select a quickprint profil
High quality print
Normal quality print
Fast low quality print
Other:
Print support structure
Switch to quickprint...
Switch to full settings...
Open expert settings... CTRL+E
Run first run wizard...
Run bed leveling wizard...
Run head offset wizard...
Ultimaker 2

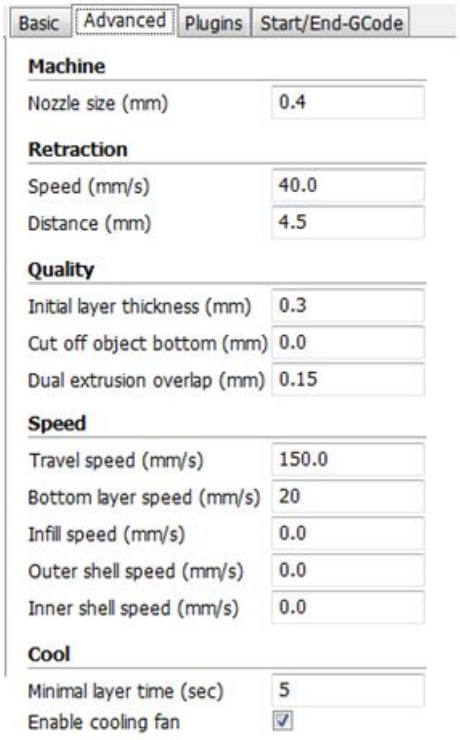
3.4 Cura operation

Use Cura to turn .stl into .gcode . Save .gcode into SD card, and print.

3.4.1 Cura "Advanced" Interface



3.4. 2 Cura “Advanced” Interface



3.4.3 Cura main parameters

（1）Layer height ： every layer thickness usually is 0.2 mm， If you want a higher precision， Please set a smaller value.The higher accuracy it is, the longer time it takes.

（2）Wall thickness ： Especially the hollow objects,
wall thickness should be Integer times the diameter of the nozzle.

（3）Bottom/Top thickness: should be Integer times the wall thickness (suggest 3-5 times) .

（4）Fill Density ： 10-20% is ok ， if u need harder object ， set 30－40％。

（5) Print Speed：suggest 30---80.

（6）Printing Temperature ： PLA 190℃-230℃ ; ABS 220℃--240℃.

（7）Support Type：TOUCHING BUILDPLATE \ VERYWHERE \ NONE.

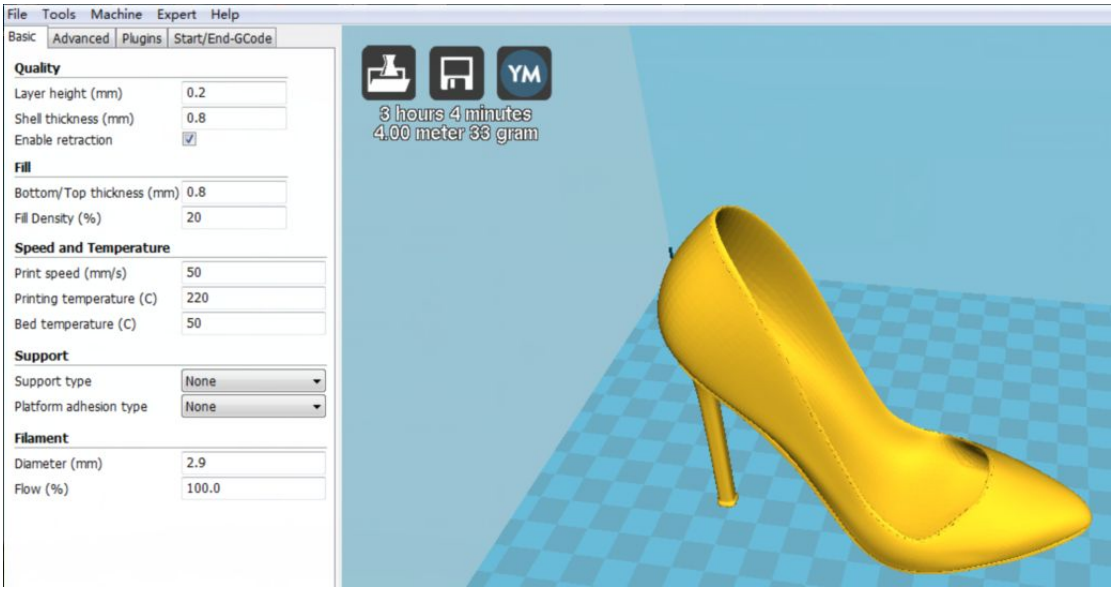
（8）Add raft：the machine will print one layer under object , to make object easy to stick together with the building plate.

（9）Diameter ： usually 1.75 or 2.9 mm。And you can measure the diameter of the filament.

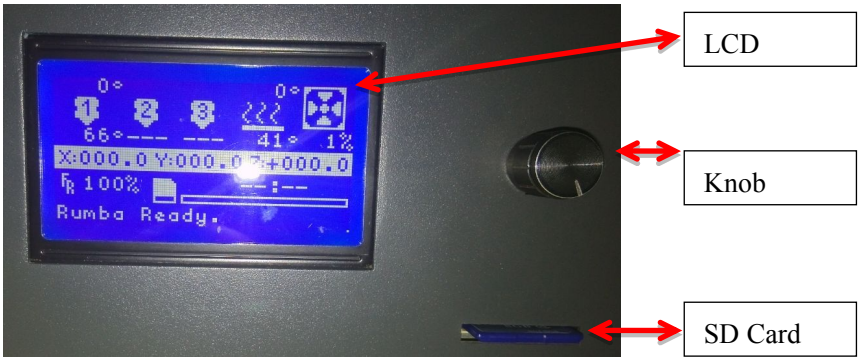
（10）Packing Density：PLA is 1.00；ABS is 0.85.

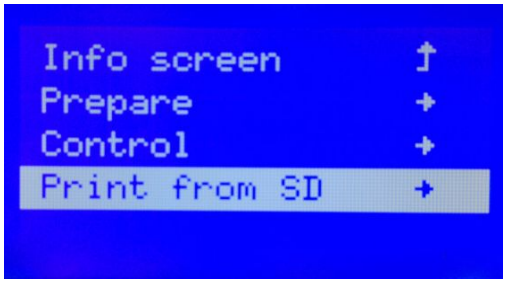
3.4.4 .GCODE made and use

3.4.4.1 move the STL or OBJ into Cura, choose the right parameter , and save the GCODE into SD card, insert the SD card into machine and print



3.4.5 Insert SD card to the machine ， turn on the power，press down the knob and select the Print From SD,choose the .gcode，press down the knob,wait for printing 。





4. Remove the model

4.1 When the printing finished, the machine will stop automatically
4.2 Wait until the the building plate and nozzle cooling down
4.3 Put on the gloves, and take down the model with tool.

5. Remove the support

Remove the support with plastic nippers with goggle and gloves on.

6. Troubleshooting

Trouble	method
No electricity	Check the power cable and the switch
Nozzle or building plate can not reach the right temperature .	Check whether the printer is initialized
	Check the Heater,replace if its damaged
Can not feed the filament	The nozzle is blocked or not; Check the distance between nozzle and plate
	the distance between bearing and feeder is short。

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